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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/813,341

DATE: 10/06/2003

TIME: 15:49:26

Input Set : A:\P1780R1.txt

Output Set: N:\CRF4\10062003\I813341.raw

ENTERED

3 <110> APPLICANT: Miller, Kathy L.
 4 Presta, Leonard G.
 6 <120> TITLE OF INVENTION: MULTIVALENT ANTIBODIES AND USES THEREFOR
 8 <130> FILE REFERENCE: P1780R1
 10 <140> CURRENT APPLICATION NUMBER: US 09/813,341
 11 <141> CURRENT FILING DATE: 2001-03-20
 13 <150> PRIOR APPLICATION NUMBER: US 60/195,819
 14 <151> PRIOR FILING DATE: 2000-04-11
 16 <160> NUMBER OF SEQ ID NOS: 11
 18 <210> SEQ ID NO: 1
 19 <211> LENGTH: 218
 20 <212> TYPE: PRT
 21 <213> ORGANISM: Homo sapiens
 23 <400> SEQUENCE: 1
 24 Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro
 25 1 5 10 15
 27 Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
 28 20 25 30
 30 Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys
 31 35 40 45
 33 Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
 34 50 55 60
 36 Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
 37 65 70 75
 39 Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
 40 80 85 90
 42 Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys
 43 95 100 105
 45 Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
 46 110 115 120
 48 Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
 49 125 130 135
 51 Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
 52 140 145 150
 54 Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 55 155 160 165
 57 Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
 58 170 175 180
 60 Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser
 61 185 190 195
 63 Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
 64 200 205 210
 66 Ser Leu Ser Leu Ser Pro Gly Lys

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69 <210> SEQ ID NO: 2
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71 <212> TYPE: PRT
72 <213> ORGANISM: Homo sapien
74 <400> SEQUENCE: 2
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76    1          5          10          15
78  Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
79          20          25          30
81  Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys
82          35          40          45
84  Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
85          50          55          60
87  Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser
88          65          70          75
90  Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
91          80          85          90
93  Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys
94          95          100          105
96  Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
97          110          115          120
99  Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser
100          125          130          135
102  Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
103          140          145          150
105  Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
106          155          160          165
108  Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
109          170          175          180
111  Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser
112          185          190          195
114  Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
115          200          205          210
117  Ser Leu Ser Leu Ser Pro Gly Lys
118          215
120 <210> SEQ ID NO: 3
121 <211> LENGTH: 217
122 <212> TYPE: PRT
123 <213> ORGANISM: Homo sapiens
125 <400> SEQUENCE: 3
126  Pro Ala Pro Pro Val Ala Gly Pro Ser Val Phe Leu Phe Pro Pro
127    1          5          10          15
129  Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr
130          20          25          30
132  Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln Phe
133          35          40          45
135  Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys
136          50          55          60

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138 Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser Val
139          65          70          75
141 Leu Thr Val Val His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys
142          80          85          90
144 Cys Lys Val Ser Asn Lys Gly Leu Pro Ala Pro Ile Glu Lys Thr
145          95         100         105
147 Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr
148         110         115         120
150 Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu
151         125         130         135
153 Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
154         140         145         150
156 Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro
157         155         160         165
159 Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu
160         170         175         180
162 Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
163         185         190         195
165 Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser
166         200         205         210
168 Leu Ser Leu Ser Pro Gly Lys
169         215
171 <210> SEQ ID NO: 4
172 <211> LENGTH: 218
173 <212> TYPE: PRT
174 <213> ORGANISM: Homo sapiens
176 <400> SEQUENCE: 4
177 Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro
178   1          5          10          15
180 Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
181          20          25          30
183 Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Gln
184          35          40          45
186 Phe Lys Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
187          50          55          60
189 Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Phe Arg Val Val Ser
190          65          70          75
192 Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
193          80          85          90
195 Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys
196          95         100         105
198 Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
199         110         115         120
201 Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser
202         125         130         135
204 Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
205         140         145         150
207 Glu Trp Glu Ser Ser Gly Gln Pro Glu Asn Asn Tyr Asn Thr Thr
208         155         160         165

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```

210  Pro Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
211              170              175              180
213  Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Ile Phe Ser
214              185              190              195
216  Cys Ser Val Met His Glu Ala Leu His Asn Arg Phe Thr Gln Lys
217              200              205              210
219  Ser Leu Ser Leu Ser Pro Gly Lys
220              215
222 <210> SEQ ID NO: 5
223 <211> LENGTH: 218
224 <212> TYPE: PRT
225 <213> ORGANISM: Homo sapiens
227 <400> SEQUENCE: 5
228  Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe Pro
229      1              5              10              15
231  Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val
232              20              25              30
234  Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val Gln
235              35              40              45
237  Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr
238              50              55              60
240  Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser
241              65              70              75
243  Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr
244              80              85              90
246  Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys
247              95              100             105
249  Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
250              110             115             120
252  Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser
253              125             130             135
255  Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val
256              140             145             150
258  Glu Trp Glx Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
259              155             160             165
261  Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg
262              170             175             180
264  Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser
265              185             190             195
267  Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys
268              200             205             210
270  Ser Leu Ser Leu Ser Leu Gly Lys
271              215
273 <210> SEQ ID NO: 6
274 <211> LENGTH: 215
275 <212> TYPE: PRT
276 <213> ORGANISM: Mus musculus
278 <400> SEQUENCE: 6
279  Thr Val Pro Glu Val Ser Ser Val Phe Ile Phe Pro Pro Lys Pro

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280      1          5          10          15
282 Lys Asp Val Leu Thr Ile Thr Leu Thr Pro Lys Val Thr Cys Val
283      20          25          30
285 Val Val Asp Ile Ser Lys Asp Asp Pro Glu Val Gln Phe Ser Trp
286      35          40          45
288 Phe Val Asp Asp Val Glu Val His Thr Ala Gln Thr Gln Pro Arg
289      50          55          60
291 Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser Glu Leu Pro
292      65          70          75
294 Ile Met His Gln Asp Cys Leu Asn Gly Lys Glu Phe Lys Cys Arg
295      80          85          90
297 Val Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile Ser
298      95         100         105
300 Lys Thr Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro
301     110         115         120
303 Pro Pro Lys Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys
304     125         130         135
306 Met Ile Thr Asp Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln
307     140         145         150
309 Trp Asn Gly Gln Pro Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile
310     155         160         165
312 Met Asp Thr Asp Gly Ser Tyr Phe Val Tyr Ser Lys Leu Asn Val
313     170         175         180
315 Gln Lys Ser Asn Trp Glu Ala Gly Asn Thr Phe Thr Cys Ser Val
316     185         190         195
318 Leu His Glu Gly Leu His Asn His His Thr Glu Lys Ser Leu Ser
319     200         205         210
321 His Ser Pro Gly Lys
322     215
324 <210> SEQ ID NO: 7
325 <211> LENGTH: 218
326 <212> TYPE: PRT
327 <213> ORGANISM: Mus musculus
329 <400> SEQUENCE: 7
330 Pro Ala Pro Asn Leu Leu Gly Gly Pro Ser Val Phe Ile Phe Pro
331      1          5          10          15
333 Pro Lys Ile Lys Asp Val Leu Met Ile Ser Leu Ser Pro Ile Val
334      20          25          30
336 Thr Cys Val Val Val Asp Val Ser Glu Asp Asp Pro Asp Val Gln
337      35          40          45
339 Ile Ser Trp Phe Val Asn Asn Val Glu Val His Thr Ala Gln Thr
340      50          55          60
342 Gln Thr His Arg Glu Asp Tyr Asn Ser Thr Leu Arg Val Val Ser
343      65          70          75
345 Ala Leu Pro Ile Gln His Gln Asp Trp Met Ser Gly Lys Glu Phe
346      80          85          90
348 Lys Cys Lys Val Asn Asn Lys Asp Leu Pro Ala Pro Ile Glu Arg
349      95         100         105
351 Thr Ile Ser Lys Pro Lys Gly Ser Val Arg Ala Pro Gln Val Tyr

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VERIFICATION SUMMARY

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